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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,636	01/22/2002	Stanley E. Dunn	0366/1E150-US1	7685

7590 06/20/2002

DARBY & DARBY P.C.
805 Third Avenue
New York, NY 10022

EXAMINER

LE, DANG D

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 06/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/888,636	DUNN, STANLEY E.
	Examiner Dang D Le	Art Unit 2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-5 and 16-18 is/are rejected.
- 7) Claim(s) 6-15 and 19-21 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 6/20/01 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) Interview Summary (PTO-413) Paper No(s) _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Drawings

1. Figures 1, 2a, 2b and 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 18 is objected to because of the following informalities: claim 18, line 1, replace "roll" with -- coil --. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hahn (U. S. Pat. No. 4,188,556) in view of Fukami (U. S. Pat. No. 4,476,409).

Regarding claim 1, Hahn shows an electro-mechanical machine, comprising:

- A field producing assembly (30) having a cup-shaped air gap which is circumferentially disposed about an axis of rotation, the field producing

assembly producing a circumferential distribution of magnetic flux in the cup shaped air gap having N periodic extremes of flux density about the axis; and

- A disc-shaped electrical assembly (28) disposed in the air gap and including a circular array of C non-overlapping coils on one of an inner and outer face of the electrical assembly;
- The field producing and electrical assemblies being mounted so as to be relatively rotatable about said axis of rotation.

Hahn does not show the cup-shaped electrical assembly disposed in the air gap and the circular array of C non-overlapping coils on one of an inner and outer face of the electrical assembly. Hahn just shows the circular array of C non-overlapping coils (30) on an inner face of the electrical assembly.

Fukami shows the cup-shaped electrical assembly (1) disposed in the air gap and the coils on one of an inner (1a) and outer face (1b) of the electrical assembly for the purpose of increasing the space factor and torque generation.

Since Hahn and Fukami are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to dispose the cup-shaped electrical assembly in the air gap and mount the circular array of C non-overlapping coils on one of an inner and outer face of the electrical assembly as taught by Fukami for the purpose discussed above.

Regarding claim 2, it is noted that if combined Hahn and Fukami would also show a circular array of C nonoverlapping coils on each of an inner and outer face of the electrical assembly with the coils on one face being angularly offset from the coils on the other face.

Regarding claim 3, it is noted that Fukami also shows each coil extending over two angularly disposed surfaces (1a, 1b) of said electrical assembly.

Regarding claim 4, it is noted that Fukami also shows each coil being generally L-shaped in profile.

Regarding claim 5, it is noted that Hahn also shows said coils being constructed so that each coil is wound to conduct current in an opposite rotational sense relative to a next adjacent coil (Figure 4A).

Regarding claim 16, it is noted that Fukami also shows said air gap including a generally disk shaped region to which said axis is generally perpendicular and a region which is generally cylindrical about said axis (Figure 2).

Regarding claim 17, it is noted that Fukami also shows said electrical assembly including a generally disk-shaped portion to which said axis is generally perpendicular and a portion which is generally cylindrical about said axis (Figure 2).

Regarding claim 18, it is noted that Fukami also shows each roll extending over two angularly disposed surfaces of said electrical assembly (Figure 1).

Allowable Subject Matter

5. Claims 6-15, 19-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: The record of prior art does not show a machine comprising:

- A first subset of C coils circularly disposed on one of two angularly disposed surfaces of said electrical assembly and a second subset of C coils cylindrically disposed on the other of said two surfaces, each coil in the first subset being axially aligned with a corresponding coil in the second subset as shown in claims 6 and 19.
- An N circumferentially spaced magnet subassemblies disposed on one side of said air gap, each magnet subassembly being generally L-shaped in a cross-section taken through said axis and being magnetically polarized opposite to a next adjacent magnet subassembly in a direction normal to the air gap as shown in claim 8. Other claims are dependent.

Information on How to Contact USPTO

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D Le whose telephone number is (703) 305-0156. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

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308-7382 for regular communications and (703) 308-7382 for After Final
communications.

Any inquiry of a general nature or relating to the status of this application or
proceeding should be directed to the receptionist whose telephone number is (703) 308-
1782.

DDL
June 18, 2002

Dong Li

DL